## (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 18 August 2005 (18.08.2005)

**PCT** 

## (10) International Publication Number WO 2005/075468 A3

- (51) International Patent Classification<sup>7</sup>: C07D 417/04, 417/14, A61K 31/506
- (21) International Application Number:

PCT/GB2005/000405

- (22) International Filing Date: 7 February 2005 (07.02.2005)
- (25) Filing Language:

English English

(26) Publication Language:

(30) Priority Data:

0402653.0 6 February 2004 (06.02.2004) GB

- (71) Applicant (for all designated States except US): CYCLA-CEL LIMITED [GB/GB]; 6-8 Underwood Street, London N1 7JQ (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): DUNCAN, Kenneth [GB/GB]; 73 Woolcarders Court, Hayford Mill, Cambusbarron, Stirlingshire FK7 9RA (GB). GIBSON, Darren [GB/GB]; 97 Lawers Drive, Broughty Ferry, Dundee DD5 3UN (GB). WANG, Shudong [AU/GB]; Burnside Mill, Forfar, Angus DD8 2RZ (GB). ZHELEVA, Daniella [GB/GB]; 28 West Acres Drive, Newport on Tay, Fife DD6 8NR (GB). FISCHER, Peter [GB/GB]; Denley Lodge, 1 Arbirlot Road, Arbroath, Angus DD11 2EN (GB).
- (74) Agents: CLYDE-WATSON, Zoe et al.; D. Young & Co., 120 Holborn, London EC1N 2DY (GB).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 13 October 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PYRIDINYL - OR PYRIMIDINYL THIAZOLES WITH PROTEIN KINASE INHIBITING ACTIVITY

(57) Abstract: The present invention relates to compounds of formula (I), or a pharmaceutically acceptable salts thereof, wherein: Z¹:1 is N or CH; ;Z² and Z³ are each independently N or CR³; ;R¹, R², R³, R⁴, R⁵, R⁶, and R³ are each independently H, R®, or R³; each R® is independently a hydrocarbyl group; and each R³ is independently halo, NO₂, alkoxy, CN, CF₃, SO₃H, SO₂NR¹OR¹¹¹,

 $S0_2R^{12}$ ,  $NR^{13}R^{14}$  (CH<sub>2</sub>)<sub>a</sub>COOR<sup>15</sup>, (CH<sub>2</sub>)<sub>b</sub>CONR<sup>16</sup>R<sup>17</sup>, (CH<sub>2</sub>)<sub>c</sub>COR<sup>18</sup> or (CH<sub>2</sub>)<sub>d</sub>OH; a, b, c and d are each independently 0, 1 2 3 or 4; R<sup>10-18</sup> are each independently H or alkyl; provided that when R<sup>1</sup> and R<sup>2</sup> are both H, Z<sup>1</sup> is CH; or Z<sup>2</sup> is N; or Z<sup>1</sup> is CH and Z<sup>2</sup> is N; and wherein the compound is other than 4-(4,5-dimethylthiazol-2-yl)-N-(3,4,5trimethoxyphenyl)-2-pyrimidineamine or 4-(5-(2-hydroxyethyl)-4-methylthiazol-2-yl)N-(3,4,5-trimethoxyphenyl)-2-pyrimidineamine. Further aspects relate to the use of compounds of formula (I) in the preparation of a medicament for treating one or more disorders selected from a proliferative disorder, a viral disorder, a CNS disorder, diabetes, stroke or alopecia.

005/075468 43